

5 I claim:

1. An acoustic horn assembly, comprising:

an acoustic horn for generating a sound pressure level (SPL) at a given frequency, said horn having a mouth end and a driver end; and

10 sound absorbing material disposed in close proximity to said acoustic horn, said sound absorbing material assisting said acoustic horn in placing the optimal sound pressure level (SPL) in a desired location, thereby providing an improved sound coverage field.

15 2. The acoustic horn assembly of Claim 1 wherein said sound absorbing material is disposed adjacent to the mouth end of said horn.

3. The acoustic horn assembly of Claim 2 wherein said sound absorbing material is disposed about the entire circumference or perimeter of said horn adjacent to its mouth end.

20 4. The acoustic horn assembly of Claim 2 wherein said sound absorbing material is disposed partially about the circumference of said horn adjacent to its mouth end.

25 5. The acoustic horn assembly of Claim 1 wherein the horn preserves the sound pressure level (SPL) gain, and wherein the sound absorbing material decreases the sound pressure level (SPL) beyond the first -6 dB down angle.

30 6. The acoustic horn assembly of Claim 1 wherein said sound absorbing material is disposed adjacent to the driver end of said horn.

7. The acoustic horn assembly loudspeaker of Claim 1 wherein sound absorbing material is disposed between the driver end and the mouth end of said horn.

35 8. The acoustic horn assembly of Claim 1 wherein said acoustic horn is constructed of plastic material.

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9. The acoustic horn assembly of Claim 1 wherein said acoustic horn is constructed of fiberglass material.

10. The acoustic horn assembly of Claim 1 wherein said acoustic horn
10 is constructed of wood.

11. A loudspeaker enclosure, comprising:
an acoustic horn for generating a sound pressure level (SPL) at a given frequency, said horn having a mouth end and a driver end;
15 sound absorbing material disposed in close proximity to said acoustic horn; and
a cabinet enclosure having a top wall, a bottom wall, two opposing sidewalls, a back wall, and a front wall, said front wall being provided with at least one opening therein for receiving said acoustic horn,
20 said sound absorbing material aiding said acoustic horn in placing the optimal sound pressure level (SPL) in a desired location, whereby an improved sound coverage field is provided.

12. The loudspeaker enclosure of Claim 11 wherein said sound
25 absorbing material is arranged adjacent to the mouth end of said horn.

13. The loudspeaker enclosure of Claim 12 wherein said sound absorbing material is arranged about the entire circumference or perimeter of the mouth end of said horn.
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14. The acoustic horn assembly of Claim 12 wherein said sound absorbing material is dispatched partially about the circumference or perimeter of said horn adjacent to its mouth end.

35 15. The loudspeaker enclosure of Claim 11 wherein said sound absorbing material is arranged closely adjacent to the driver end of said horn.

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5 16. The loudspeaker enclosure of Claim 15 wherein said sound absorbing material is arranged about the entire circumference of said horn.

10 17. The acoustic horn assembly of Claim 15 wherein said sound absorbing material is arranged partially about the circumference of said horn adjacent to its mouth end.

15 18. The loudspeaker enclosure of Claim 11 wherein said sound absorbing material is arranged about the horn between the mouth end and the driver end thereof.

20 19. The loudspeaker enclosure of Claim 18 wherein said sound absorbing material is arranged about the entire circumference or perimeter of said horn.

25 20. The acoustic horn assembly of Claim 18 wherein said sound absorbing material is disposed partially about the circumference or perimeter of said horn adjacent to its mouth end.

25 21. The loudspeaker enclosure of Claim 11 wherein said horn preserves the sound pressure level (SPL) gain, and wherein the sound absorbing material decreases the sound pressure level (SPL) beyond the first -6 dB down angle.

30 22. The loudspeaker enclosure of Claim 11 further comprising one or more acoustic generators in addition to said horn.

35 23. A method of constructing an acoustic horn assembly, comprising the steps of:

35 forming an acoustic horn having a mouth, a throat, and a generally truncated conical or pyramidal body with the larger cross surface area of the body defining the mouth thereof; and

securing sound absorbing material about the circumference or perimeter

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5 of said acoustic horn to enable the sound pressure level (SPL) generated by said horn to be more accurately directed.

10 24. The method of Claim 23 wherein said securing step is carried out by securing said sound absorbing material in close proximity to the mouth of said horn.

15 25. The method of Claim 23 wherein said securing step is carried out by securing said sound absorbing material in close proximity to the throat of said horn.

20 26. The method of Claim 23 wherein said securing step is carried out by securing said sound absorbing material between the mouth and the throat of said horn.

25 27. The acoustic horn assembly of Claim 1 wherein said sound absorbing material is defined by open cell or reticulated foam.

28. The loudspeaker enclosure of Claim 11 wherein said sound absorbing material is defined by open cell or reticulated foam.

25 29. The method of Claim 23 wherein said sound absorbing material is defined by open cell or reticulated foam.

30 30. An array of acoustic horn assemblies, each of said array comprising:

an acoustic horn for generating a sound pressure level (SPL) at a given frequency, said horn having a mouth end and a driver end; and

35 sound absorbing material disposed in close proximity to said acoustic horn, said sound absorbing material assisting said acoustic horn in placing the optimal sound pressure level (SPL) in a desired location, thereby providing an improved sound coverage field, the sound pressure level (SPL) generated by each acoustic horn being directed to a localized and separate coverage area to

- 5 minimize interference between two adjacent sound pressure levels and improve
the overall sound coverage generated by the array.

10 31. The array of acoustic horn assemblies of Claim 30 wherein said
sound absorbing material is disposed adjacent to the mouth end of the horn of
each said acoustic horn assembly.

32. The array of acoustic horn assemblies of Claim 30 wherein said
sound absorbing material is disposed adjacent to the driver end of the horn of
each said acoustic horn assembly.

15 33. The array of acoustic horn assemblies of Claim 30 wherein said
sound absorbing material is disposed between the driver end and the mouth end
of each said acoustic horn assembly.

20 34. A method of providing improved loudspeaker sound coverage
over large areas, comprising the steps of:

25 providing two or more acoustic horn assemblies for generating a sound
pressure level (SPL) at a given frequency, each said acoustic horn assembly
including a horn having a mouth end, a driver end and sound absorbing material
disposed in close proximity to said acoustic horn, the sound absorbing material
assisting the acoustic horn in placing the optimal sound pressure level (SPL) in a
desired location; and

30 directing the sound pressure level (SPL) of each loudspeaker at a desired
location so as to minimize interference between adjacent sound pressure levels
such that the sound coverage over the entire large area is improved.